Dominion Energy Nuclear Connecticut, Inc.
Rt 156, Rope Ferry Road, Waterford, CT 06385
DominionEnergy.com

Dominion Energy®

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Serial No.: 20-003
MPS Lic/LD R0
Docket No.: 50-336
License No.: DPR-65

FEB 19 2020

DOMINION ENERGY NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
LICENSEE EVENT REPORT 2019-001-00
MANUAL REACTOR TRIP DUE TO LOSS OF THE 'A' STEAM GENERATOR FEED PUMP

This letter forwards Licensee Event Report (LER) 2019-001-00, documenting an event at Millstone Power Station Unit 2, on December 27, 2019. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B).

Should you have any questions or require additional information, please contact Mr. Jeffry A. Langan at (860) 444-5544.

Sincerely,

John R. Daugherty
Site Vice President – Millstone

Enclosure: LER 336/2019-001-00

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd.
Suite 100
King of Prussia, PA 19406-2713

R.V. Guzman
NRC Senior Project Manager Millstone Units 2 and 3
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 08 C-2
Rockville, MD 20852-2738

NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT

LICENSEE EVENT REPORT 2019-001-00
MANUAL REACTOR TRIP DUE TO LOSS OF THE 'A' STEAM GENERATOR FEEDWATER PUMP

MILLSTONE POWER STATION UNIT 2
DOMINION ENERGY NUCLEAR CONNECTICUT, INC.

NRC FORM 366 (04-2018) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See NUREG-1022, R.3 for instruction and guidance for completing this form http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/)

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. Facility Name	2. Docket Number	3. Page
Millstone Power Station Unit 2	05000336	1 OF 2

4. Title

MANUAL REACTOR TRIP DUE TO LOSS OF THE 'A' STEAM GENERATOR FEED PUMP

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved	
Month	Day	Year	Year	Sequential Number	Rev No.	Month	Day	Year	Facility Name	Docket Number
12	27	2019	2019	- 001	- 00	02	19	2020		05000
										Docket Number 05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☒ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. Power Level	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ Other (Specify in Abstract below or in NRC Form 366A)	

12. Licensee Contact for this LER

Licensee Contact	Telephone Number (Include Area Code)
Jeffry A Langan, Manager Nuclear Station Licensing	(860) 444-5544

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES
X	SJ	CPLG		Y					

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
☐ Yes (If yes, complete 15. Expected Submission Date) ☒ No				

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

On December 27, 2019 at 0704 while operating in MODE 1 at 100 percent power, operators manually tripped the Millstone Power Station Unit 2 (MPS2) reactor due to lowering steam generator levels caused by a loss of flow from the 'A' Steam Generator Feed Pump (SGFP).

The direct cause was the failure of the coupling connecting the MPS2 'A' Steam Generator Feed Pump (M2P1A) to the Steam Generator Feed Pump Turbine (M2H-5A).

The failed 'A' SGFP coupling was replaced and MPS2 was returned to service.

The actuation of Reactor Protection System (RPS) and Auxiliary Feedwater System (AFW) is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in a manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B).

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Millstone Power Station Unit 2	05000336	2019	001	00

NARRATIVE

1. EVENT DESCRIPTION

On December 27, 2019 at 0704 while operating in MODE 1 at 100 percent power, operators manually tripped the Millstone Power Station Unit 2 (MPS2) reactor due to lowering steam generator levels caused by a trip of the 'A' Steam Generator Feed Pump (SGFP). All control rods inserted on the reactor trip. The reactor trip was uncomplicated and heat removal was via the steam dumps to the condenser. All safety systems functioned as required.

Following the reactor trip, main feedwater continued to be available. Steam generator level was restored to the post trip band using main feedwater. An actuation of the Auxiliary Feedwater System occurred following the manual reactor trip as designed, as a result of low level in the steam generators.

The actuation of Reactor Protection System (RPS) and Auxiliary Feedwater System (AFW) is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in a manual or automatic actuation of sytems listed in 10 CFR 50.73(a)(2)(iv)(B).

2. CAUSE

The direct cause was the failure of the coupling connecting the MPS2 'A' Steam Generator Feed Pump (M2P1A) to the Steam Generator Feed Pump Turbine (M2H-5A). This resulted in loss of motive force to the 'A' SGFP, a Steam Generator Feed Pump Turbine overspeed trip, subsequent lowering of the steam generator level and a manual reactor trip.

3. ASSESSMENT OF SAFETY CONSEQUENCES

There were no safety consequences related to this event. The operations crew responded to the loss of the SGFP by initiating a manual reactor trip. All control rods inserted on the reactor trip and all emergency systems functioned as designed. The steam generator safety valves did not lift. Main feedwater continued to be available post reactor trip as expected. Condenser vacuum was maintained following the trip allowing heat removal via the steam dumps to the condenser. Because of the loss of the 'A' SGFP, steam generator level dropped below the Auxiliary Feedwater (AFW) actuation setpoint, and AFW was delivered to both steam generators until the operators secured AFW approximately 9 minutes after AFW actuation. All reactor coolant pumps continued to operate and the Reactor Coolant System (RCS) temperature was maintained within the normal post trip band of 530 – 535 degrees fahrenheit following the event. Following reactor trip, the minimum pressurizer pressure was approximately 1941 psia, which is within the normal post trip operating band. As expected, a backup charging pump started, and letdown was minimized due to a deviation from the programmed pressurizer level setpoint. The control system restored pressurizer level to its programmed level as designed. All safety systems operated as required. Therefore, no safety functions were challenged, and plant operation was maintained within the bounds of the FSAR chapter 14 safety analysis.

4. CORRECTIVE ACTION

The failed 'A' SGFP coupling was replaced and MPS2 was returned to service. The 'B' SGFP coupling was inspected and determined to be satisfactory. Additional corrective actions are being taken in accordance with the station's corrective action program.

5. PREVIOUS OCCURRENCES

There have been no manual reactor trips at MPS2 with an apparent cause linked to a SGFP failure in the past 3 years.

6. Energy Industry Identification System (EIIS) codes

- BA – Aux Feedwater/ Emergency Feedwater system
- SJ – Feedwater System
- CPLG - Coupling